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# Neem - search history

Ghali 10/040,242

22/06/2003

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(FILE 'HOME' ENTERED AT 15:28:36 ON 22 JUN 2003)

FILE 'REGISTRY' ENTERED AT 15:28:51 ON 22 JUN 2003

E ALCOHOL/CN  
L1 1 SEA ABB=ON ALCOHOL/CN  
E WATER/CN  
L2 1 SEA ABB=ON WATER/CN  
E FATTY ALCOHOL/CN  
E FATTY ALCOHOLS/CN  
L3 1 SEA ABB=ON "FATTY ALCOHOLS"/CN  
E FATTY ETHERS/CN  
E FATTY ESTERS/CN  
E POLYOLS/CN  
E POLYOL/CN  
E GLYCOLS/CN  
E GLYCOL/CN  
L4 1 SEA ABB=ON GLYCOL/CN  
E VEGETABLE OIL/CN  
L5 1 SEA ABB=ON "VEGETABLE OIL"/CN  
E MINERAL OIL/CN  
L6 5 SEA ABB=ON ("MINERAL OIL"/CN OR "MINERAL OIL, FILM ACTIVATED"/  
CN OR "MINERAL OILS"/CN)  
E LIPOSOMES/CN  
E LAMINAR LIPIDS/CN  
E SILICONE OILS/CN  
L7 1 SEA ABB=ON "SILICONE OIL"/CN  
L8 11 SEA ABB=ON L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7

FILE 'HCAPLUS' ENTERED AT 15:31:36 ON 22 JUN 2003

L9 297 SEA ABB=ON ?NEEM?(W)?SEED?  
L10 67 SEA ABB=ON L9 AND (?WATER? OR ?ALCOHOL? OR ?FATTY?(W) (?ALCOHOL  
? OR ?ETHER? OR ?ESTER?) OR ?POLYOL? OR ?GLYCOL? OR (?VEGETABLE  
? OR ?MINERAL? OR ?SILICON?) (W)OIL? OR ?LIPOSOME? OR ?LAMINAR?(  
W)?LIPID?)  
L11 26 SEA ABB=ON L10 AND ((?AEROSOL? OR ?PUMP?) (W)?SPRAY? OR  
?CREAM? OR ?DISPERS? OR ?FOAM? OR GEL? OR ?LOTION? OR ?MOUSSE?  
OR ?OINTMENT? OR ?POWDER? OR ?PATCH? OR ?POMADE? OR ?SOLUTION?  
OR ?STICK? OR ?TOWLETTE?)  
L12 6 SEA ABB=ON L9 AND (?COSMETIC? OR ?SKIN? OR ?DERM? OR ?COLLAGEN  
? OR ?ELASTIN?)  
L13 19 SEA ABB=ON L9 AND (?COSMETIC? OR ?SKIN? OR ?HAIR? OR ?NAIL?  
OR ?LIPS? OR ?DERM? OR ?COLLAGEN? OR ?ELASTIN? OR ?STRESS? OR  
?AGING? OR ?GLYCOSAMIN? OR ?CELLULIT? OR ?WRINKLE? OR ?DISCOLOR  
?)

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT  
15:56:41 ON 22 JUN 2003

L14 34 SEA ABB=ON L13  
L15 31 DUP REMOV L14 (3 DUPLICATES REMOVED)

FILE 'HCAPLUS' ENTERED AT 15:59:20 ON 22 JUN 2003

L16 4 SEA ABB=ON L13 AND (?WATER? OR ?ALCOHOL? OR ?FATTY?(W) (?ALCOHO  
L? OR ?ETHER? OR ?ESTER?) OR ?POLYOL? OR ?GLYCOL? OR (?VEGETABL  
E? OR ?MINERAL? OR ?SILICON?) (W)OIL? OR ?LIPOSOME? OR ?LAMINAR?  
(W)?LIPID?)  
L17 4 SEA ABB=ON L13 AND ((?AEROSOL? OR ?PUMP?) (W)?SPRAY? OR  
?CREAM? OR ?DISPERS? OR ?FOAM? OR GEL? OR ?LOTION? OR ?MOUSSE?

L18 OR ?OINTMENT? OR ?POWDER? OR ?PATCH? OR ?POMADE?)  
7 SEA ABB=ON L16 OR L17

L19 FILE 'HCAPLUS' ENTERED AT 16:06:54 ON 22 JUN 2003  
19 SEA ABB=ON L13 OR L18

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT  
16:07:06 ON 22 JUN 2003  
L20 14 SEA ABB=ON L18  
L21 13 DUP REMOV L20 (1 DUPLICATE REMOVED)  
L22 31 SEA ABB=ON L15 OR L21

=> d que stat 119

L9 297 SEA FILE=HCAPLUS ABB=ON ?NEEM?(W)?SEED?

L13 19 SEA FILE=HCAPLUS ABB=ON L9 AND (?COSMETIC? OR ?SKIN? OR  
?HAIR? OR ?NAIL? OR ?LIPS? OR ?DERM? OR ?COLLAGEN? OR ?ELASTIN?  
OR ?STRESS? OR ?AGING? OR ?GLYCOSAMIN? OR ?CELLULIT? OR  
?WRINKLE? OR ?DISCOLOR?)

L16 4 SEA FILE=HCAPLUS ABB=ON L13 AND (?WATER? OR ?ALCOHOL? OR  
?FATTY?(W) (?ALCOHOL? OR ?ETHER? OR ?ESTER?) OR ?POLYOL? OR  
?GLYCOL? OR (?VEGETABLE? OR ?MINERAL? OR ?SILICON?) (W)OIL? OR  
?LIPOSOME? OR ?LAMINAR?(W)?LIPID?)

L17 4 SEA FILE=HCAPLUS ABB=ON L13 AND ((?AEROSOL? OR ?PUMP?) (W)?SPRA  
Y? OR ?CREAM? OR ?DISPERS? OR ?FOAM? OR GEL? OR ?LOTION? OR  
?MOUSSE? OR ?OINTMENT? OR ?POWDER? OR ?PATCH? OR ?POMADE?)

L18 7 SEA FILE=HCAPLUS ABB=ON L16 OR L17

L19 19 SEA FILE=HCAPLUS ABB=ON L13 OR L18 - I recombined these so that  
terms from the more specific search statement, L18, would  
be highlighted for you.

Unfortunately There are a lot of "useless"  
refs in this group which resulted from  
term truncation, e.g. ?aging? returned  
"foraging."

We fared somewhat better in the  
next section from "Other databases",  
although some are "extracts."  
Please let me know if you would  
like for me to rework any of this.

Thanks you,  
Mary Jane Ruhl

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L19 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:376171 HCAPLUS

DOCUMENT NUMBER: 138:373853

TITLE: Topical **cosmetic** composition with  
**skin** rejuvenation benefitsINVENTOR(S): Lu, Michelle; Duggan, Michele; Menon, Gopinathan K.;  
Theophilus, Eugenia H.; Dokka, Sujatha; Wang, Helen

PATENT ASSIGNEE(S): Avon Products, Inc, USA

SOURCE: U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 2003091665	A1	20030515	US 2001-39746	20011109
WO 2003041636	A2	20030522	WO 2002-US32579	20021011
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,				
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,				
TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,				
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,				
NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2001-39746 A 20011109

AB Topical **cosmetic** compns. for improving the aesthetic appearance of **skin** and remediating the effects of **aging** are provided. One compn. comprises a blend of **neem seed** cell broth and one or more addnl. botanical ingredients, selected from, e.g., an ext. of *Salvia miltiorrhiza*, grape seeds, cucumber, carrot, rosemary, iris, etc. Another compn. has pomegranate fruit ext. and, optionally, one or more addnl. botanical ingredients.

L19 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:397193 HCAPLUS

DOCUMENT NUMBER: 137:2986

TITLE: Effect of herbal antifungal agents on 33 Trichophyton isolates

AUTHOR(S): Dave, Shweta P.; Dube, H. C.

CORPORATE SOURCE: Department of Life Sciences, Bhavanagar University,  
Bhavanagar, 364 002, IndiaSOURCE: Proceedings of the National Academy of Sciences,  
India, Section B: Biological Sciences (2001), 71(2),  
149-155

CODEN: PAIBA6; ISSN: 0369-8211

PUBLISHER: National Academy of Sciences, India

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Thirty-three Trichophyton isolates representing different species and varieties have been examd. for their inhibition by 8 test samples derived from *Ricinus communis* (castor) seed oil, *Cocos nucifera* (coconut oil), *Azadirachta indica* (**neem**) **seed** oil, *Salicornia* seed

oil and exts. of *Oscimum sanctum* (tulsi) leaf, neem leaf and *Allium sativum* (garlic) scales and cloves. The results, based on minimal inhibitory concn. (MIC), suggest that except 2 samples (coconut oil and garlic clove ext.) rest of the samples caused complete inhibition at varying concns. Garlic scales and tulsi leaf exts. showed highest antifungal activity against most *Trichophyton* isolates (16 and 2 isolates, resp.), followed by **neem seed** oil. The garlic clove was ineffective as an antifungal compd. Similarly, the neem leaf ext. had only feeble toxicity with most isolates.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:289621 HCAPLUS

DOCUMENT NUMBER: 136:398674

TITLE: Desiccation-induced changes in lipid peroxidation, superoxide level and antioxidant enzymes activity in neem (*Azadirachta indica* A. Juss) seeds

AUTHOR(S): Varghese, Bobby; Naithani, S. C.

CORPORATE SOURCE: Seed Biology Laboratory, School of Life Sciences, Pt. Ravishankar Shukla University, Raipur, 492 010, India

SOURCE: *Acta Physiologiae Plantarum* (2002), 24(1), 79-87

CODEN: APPLDE; ISSN: 0137-5881

PUBLISHER: Polish Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The freshly harvested mature **neem seeds** (42.2 % seed moisture content) with 100 % viability deteriorate when naturally desiccated to below 10.9 %. The desiccation-induced loss of viability was closely assocd. with over accumulation of superoxide anion and lipid peroxidn. products both in the embryonic axes and cotyledons. The levels of superoxide anion and lipid peroxidn. products were higher in axes compared to cotyledons. Superoxide dismutase activity was not much affected, both in the axes and cotyledons of 100 % viable seeds during desiccation from 42.2 % to 10.9 % seed moisture content. Steep rise in its activity was obsd. during drying below lowest safe moisture content (LSMC). Activities of catalase and peroxidase exhibited substantially higher levels in the 100 % viable seeds dehydrated up to LSMC. Their activities declined sharply in seeds with **water** content below LSMC. Impairment of catalase and peroxidase activities possibly lead to enhanced accumulation of reactive oxygen species. The accumulation of superoxide anion, lipid peroxidn. and differential expression of superoxide dismutase and catalase/peroxidase activities in response to desiccation (below LSMC) is discussed to explain the intermediate storage physiol. of **neem seeds**.

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:880270 HCAPLUS

DOCUMENT NUMBER: 134:219947

TITLE: Is oxidative **stress** involved in the loss of neem (*Azadirachta indica*) seed viability?

AUTHOR(S): Sacande, Moctar; Hoekstra, Folkert A.; Van Aelst, Adriaan C.; De Vos, C. H. Ric

CORPORATE SOURCE: Centre National de Semences Forestieres, Ouagadougou, BP 2682, Burkina Faso

SOURCE: *Seed Science Research* (2000), 10(3), 381-392

CODEN: SESREX; ISSN: 0960-2585

PUBLISHER: CABI Publishing

DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Neem (*Azadirachta indica*) is a valuable multipurpose tree of tropical arid and semiarid regions. The use of its seeds is hindered by their short storage longevity. The possible causes of rapid loss of viability were investigated on different seed lots during exposure to 32% and 75% RH at 20.degree.. Within 6 mo the seeds almost lost germinability at 75% RH, whereas at 32% RH viability decreased only slightly. On rehydration, the axis cells from nongerminable seeds had lost turgor, whereas those from viable seeds were turgid as visualized by low temp. SEM images of fractured axes. Glutathione oxidn. status was used to est. oxidative **stress** during storage. Oxidative **stress** was much higher at 75% RH storage than at 32% RH, mainly caused by the rapid loss of reduced glutathione at 75% RH. Oligosaccharides and phospholipids decreased, and free fatty acids increased during storage at the high RH but remained at a const. level at the low RH. However, the degree of fatty acid unsatn. between viable and nonviable seed lots was similar. During the (slow) dehydration of fresh seeds, total glutathione, oligosaccharides and phospholipids accumulated, particularly in the initially more hydrated seeds. This accumulation was interpreted as a postmaturation process assocd. with acquisition of the capability for long-term survival in the dry state. The mass ratio of oligosaccharides to sucrose was 0.19 on av. in dehydrated **neem seeds**. The data suggest that the storage behavior of **neem seeds** has features that characterize it as orthodox.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:305572 HCAPLUS  
 DOCUMENT NUMBER: 132:289977  
 TITLE: Acaricidal composition for dust mite control  
 INVENTOR(S): Rao, Pillarisetti Venkata Subba; Annadurai, Ramaswamy Sambasivam; Srinivas, Malladi  
 PATENT ASSIGNEE(S): Vittal Malliya Scientific Research Foundation, India  
 SOURCE: U.S., 4 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6060075	A	20000509	US 1998-136038	19980820
PRIORITY APPLN. INFO.:			IN 1997-MA1882	19970827

AB The title compn. comprises **neem seed** kernel ext. contg. azadirachtin, an **alc.** ext. of plant resins, plant polyphenols or phenolic compd., a fungistat used in food industry and a **dispersion** medium.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:284376 HCAPLUS  
 DOCUMENT NUMBER: 133:39446  
 TITLE: Effect of botanical insecticides on the **foraging** and feeding behavior of the coccinellid predator *Cryptolaemus montrouzieri*  
 AUTHOR(S): Simmonds, M. S. J.; Manlove, J. D.; Blaney, W. M.;

CORPORATE SOURCE: Khambay, B. P. S.  
Jodrell Laboratory, Royal Botanic Gardens, Richmond,  
Surrey, TW9 3AB, UK

SOURCE: Phytoparasitica (2000), 28(2), 99-107  
CODEN: PHPRA2; ISSN: 0334-2123

PUBLISHER: Priel Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To investigate the effect of botanicals on the **foraging** behavior of the mealybug predator *Cryptolaemus montrouzieri* Mulsant, predator larvae and adults were exposed to leaves and the mealybug *Planococcus citri* (Risso) treated with one of the following: a crude **neem seed** ext.; a formulation of azadirachtin (Azatin EC); a pyrethrum ext.; and one of two naphthoquinones isolated from *Calceolaria andina* (BTG 504 and BTG 505). All the botanicals influenced the **foraging** behavior of *C. montrouzieri*, at one or more concns. Larval and adult **foraging** behavior was influenced most by BTG 504 and neem also affected larval behavior; the predators contacted fewer treated leaves and spent less time on treated than on untreated leaves. Larvae also consumed fewer mealybugs treated with BTG 504 and BTG 505 compared with untreated mealybugs.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:226511 HCAPLUS

TITLE: A study of **water** relations in neem (*Azadirachta indica*) seed that is characterized by complex storage behaviour

AUTHOR(S): Sacande, Moctar; Buitink, Julia; Hoekstra, Folkert A.

CORPORATE SOURCE: Centre National de Semences Forestieres (CNSF),  
Ouagadougou, Burkina Faso

SOURCE: Journal of Experimental Botany (2000), 51(344),  
635-643

CODEN: JEBOA6; ISSN: 0022-0957

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Neem (*Azadirachta indica*) seed is reputed to have limited tolerance to desiccation, to be sensitive to chilling and imbibitional **stress**, and to display intermediate storage behavior. To understand this behavior the properties of **water** in seed tissues were studied. **Water** sorption isotherms showed that at similar relative humidity (RH), the **water** content was consistently higher in axes than in cotyledons, mainly due to the elevated lipid content (51%) in the cotyledons. Using differential scanning calorimetry, melting transitions of **water** were obsd. at **water** contents higher than 0.14 g H<sub>2</sub>O g<sup>-1</sup> DW in the cotyledons and 0.23 g H<sub>2</sub>O g<sup>-1</sup> DW in the axes. Beside melting transitions of lipid, as verified by IR spectroscopy, changes in heat capacity were obsd. which shifted with **water** content, indicative of glass-to-liq. transitions. State diagrams are given on the basis of the **water** content of seed tissues, and also on the basis of the RH at 20.degree.C. Longevity was considerably improved, and the sensitivity to chilling/subzero temps. was reduced when axis and cotyledons were dehydrated to moisture contents .ltoreq. of approx. 0.05 g H<sub>2</sub>O g<sup>-1</sup> DW. However, longevity during storage at very low **water** contents was limited. A possible mechanism for the loss of sensitivity to chilling/subzero temps. at low **water** contents is discussed. The results suggest that dry **neem seeds** in the glassy state have great potential for extended storability, also at subzero



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2000:14932 HCAPLUS  
DOCUMENT NUMBER: 132:49373  
TITLE: Insect repelling food **packaging** materials  
INVENTOR(S): Navarro, Shlomo; Dias, Raphael; Ferizli, Ahmet Guray;  
Mansour, Fadel  
PATENT ASSIGNEE(S): State of Israel, Ministry of Agriculture-Aro, Israel  
SOURCE: PCT Int. Appl., 32 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000000022	A1	20000106	WO 1999-IL354	19990627
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, VZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9945304	A1	20000117	AU 1999-45304	19990627
PRIORITY APPLN. INFO.:			IL 1998-125130	A 19980628
			WO 1999-IL354	W 19990627

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1996:222403 HCAPLUS  
DOCUMENT NUMBER: 124:235519  
TITLE: A process for isolation of active bitter and  
odoriferous constituents from **neem**  
**seeds**  
INVENTOR(S): Gupta, Ranjana  
PATENT ASSIGNEE(S): India  
SOURCE: Indian, 8 pp.  
CODEN: INXXAP  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
IN 173328	A	19940402	IN 1989-DE1014	19891103
PRIORITY APPLN. INFO.:			IN 1989-DE1014	19891103
AB	The process comprises treating the crushed seeds in an aq. system contg.			

polar solvents to obtain an ext. at a temp. of 40-60.degree. and distg. the ext. to obtain an amalgam contg. active bitter and odoriferous constituents of the **neem seed**. The isolated active bitter and odoriferous constituents has various applications such as formulations of facial **creams**.

L19 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:141827 HCAPLUS  
DOCUMENT NUMBER: 124:196244  
TITLE: Cytotoxicity of nimbolide, epoxyazadiradione and other limonoids from neem insecticide  
AUTHOR(S): Cohen, Ephraim; Quistad, Gary B.; Casida, John E.  
CORPORATE SOURCE: Environmental Chemistry Toxicology Lab., Univ. California, Berkeley, CA, 94720-3112, USA  
SOURCE: Life Sciences (1996), 58(13), 1075-81  
CODEN: LIFSAK; ISSN: 0024-3205  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB **Neem seed** prepsns. contain not only azadirachtin as the active insect antifeedant or growth regulator but also a variety of other limonoids, some of which are cytotoxic to N1E-115 neuroblastoma (mouse), 143B.TK- osteosarcoma (human) and Sf9 (insect) cultured cell lines. The most potent of these limonoids is nimbolide with an IC50 ranging from 4 to 10 .mu.M and **averaging** 6 .mu.M for the three cell lines. Other limonoids of decreasing potency and their av. IC50 values (.mu.M) are epoxyazadiradione 27 .mu.M, salannin 112 .mu.M, and nimbin, deacetylnimbin and azadirachtin each >200 .mu.M (practically nontoxic). Nimbolide at 10 .mu.M acts rapidly in the neuroblastoma cells to induce blebbing assocd. with disruption of plasma membranes almost instantaneously and 50% loss of cell viability within 30 min. At 5 .mu.M nimbolide, the cells become elongated and assume a neuronal shape accompanied by spikes and lamellipodia within 1-2 h followed shortly thereafter by extensive cytol. changes and vacuolization assocd. with irreversible processes leading to cell death. Calcium is apparently not involved in the cytotoxic effect since a calcium-free medium, leading to profound morphol. changes, does not alter the sensitivity to nimbolide. In contrast, epoxyazadiradione requires higher concns. and a few hours for 50% viability loss without major morphol. changes, indicating a difference in mode of action for nimbolide and epoxyazadiradione.

L19 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:599749 HCAPLUS  
DOCUMENT NUMBER: 123:3346  
TITLE: Laboratory trials with aqueous neem (Azadirachta indica A. Juss) seed kernel extract in controlling **fresh water snails**  
AUTHOR(S): Mossalam, I.; Desoky, E. A.; Kelany, I. M.  
CORPORATE SOURCE: Faculty Vet. Medicine, Zagazig Univ., Egypt  
SOURCE: Pract. Oriented Results Use Prod. Neem-Ingredients Pheromones, Proc. Workshop, 3rd (1994), Meeting Date 1993, 77-84. Editor(s): Kleeberg, Hubertus. Druck & Graphic: Giessen, Germany.  
CODEN: 61FZAD  
DOCUMENT TYPE: Conference  
LANGUAGE: English

AB Different concns. of Aq. **Neem Seed** Kernel Ext. (ANSKE) were used for studying their efficiency against **fresh water snails**. ANSKE (25 gm/L) at diln. of 80% killed Biomphalaria alexandrina, Bulinus truncatus, Lymnaea cailliaudi and Physa acuta,

whereas, at 50 gm/L it killed all three tested operculated **snails** (Cleopatra bulimoids, Vivipara vivipara and Lanistas bolteni) after 24 h of treatment.

L19 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:215271 HCAPLUS

DOCUMENT NUMBER: 122:3517

TITLE: Effects of **neem seed** derivatives  
on brown planthopper symbiotes

AUTHOR(S): Raguraman, S.; Saxena, R.C.

CORPORATE SOURCE: Tamil Nadu Agricultural University, Coimbatore,  
641003, India

SOURCE: Phytoparasitica (1994), 22(4), 299-307

CODEN: PHPRA2; ISSN: 0334-2123

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Populations of intracellular symbiotes declined significantly in brachypterous females of the brown planthopper, Nilaparvata lugens, which were **stressed** during nymphal development by **caging** them on IR20 rice plants treated with 3% neem oil, 5% **neem seed** kernel aq. ext., or 10% neem cake aq. ext. In addn., nymphs grew poorly and symbiote populations in prospective females declined, when reared on rice plants grown in soil treated with neem cake; this indicates systemic action of bioactive neem constituents. Addn. of custard-apple oil to neem oil did not enhance the inhibitory effects. The effects of neem derivs. on the symbiotes may be either host-mediated -- possibly through disturbed neuroendocrine homeostasis, or direct leading to perturbations of host-symbiote equil.

L19 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1993:143832 HCAPLUS

DOCUMENT NUMBER: 118:143832

TITLE: Effect of azadirachtin on vitellogenic oocyte  
development in **Trogoderma granarium** Everts  
(Coleoptera: **Dermestidae**)

AUTHOR(S): Susha, C.; Karnavar, G. K.

CORPORATE SOURCE: Dep. Zool., Univ. Kerala, Thiruvananthapuram, 695 581,  
India

SOURCE: Indian Journal of Experimental Biology (1993), 31(2),  
188-90

CODEN: IJEBA6; ISSN: 0019-5189

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Azadirachtin, a major component of **neem seed** ext., inhibits feeding, growth, and reprodn. in insects. In *T. granarium*, a redn. in the vitellogenic no. was obsd. when pupae were topically treated with azadirachtin. Disruption of the hormonal control of oocyte development is hypothesized to be the mode of action of azadirachtin.

L19 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:402658 HCAPLUS

DOCUMENT NUMBER: 111:2658

TITLE: Corpus cardiacum - a target for azadirachtin

AUTHOR(S): Rembold, H.; Subrahmanyam, B.; Mueller, T.

CORPORATE SOURCE: Max-Planck-Inst. Biochem., Martinsried, D-8033, Fed.  
Rep. Ger.

SOURCE: Experientia (1989), 45(4), 361-3

CODEN: EXPEAM; ISSN: 0014-4754

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Azadirachtin A, an insect growth inhibitor derived from **neem seed**, when injected at a physiol. dose, inhibits the hormonally controlled ovarian development in *Locusta migratoria*. Its tritiated dihydro deriv. concs. more in the corpus cardiacum than in the brain. Translocation and release of the neurosecretory proteins labeled with L-[35S]cysteine in the corpus cardiacum is very poor in locusts under azadirachtin **stress**. Thus, azadirachtin may influence the release of trophic hormones from the corpus cardiacum leading to alterations in timing and titer of morphogenetic hormone pools.

L19 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1988:506417 HCAPLUS  
DOCUMENT NUMBER: 109:106417  
TITLE: Potential of azadirachtin-containing pesticides for integrated pest control in developing and industrialized countries  
AUTHOR(S): Schmutterer, H.  
CORPORATE SOURCE: Inst. Phytopathol. Angew. Zool., Justus-Liebig-Univ., Giessen, D-6300, Fed. Rep. Ger.  
SOURCE: Journal of Insect Physiology (1988), 34(7), 713-19  
CODEN: JIPHAF; ISSN: 0022-1910  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: English

AB A review with 37 refs. discussing the modes of action of azadirachtin and its toxicity characteristics. Problems assocd with the development of azadirachtin-contg. insecticides from **neem seed** exts. are addressed. The advantages of azadirachtin for integrated pest management programs are **stressed**.

L19 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:170654 HCAPLUS  
DOCUMENT NUMBER: 106:170654  
TITLE: On the effect of the enriched and formulated **neem seed** extract AZT-VR-K on honeybees *Apis mellifera* L  
AUTHOR(S): Schmutterer, H.; Holst, H.  
CORPORATE SOURCE: Inst. Phytopathol. Angew. Zool., Justus-Liebig-Univ., Giessen, D-6300, Fed. Rep. Ger.  
SOURCE: Journal of Applied Entomology (1987), 103(2), 208-13  
CODEN: JOAEEB; ISSN: 0931-2048  
DOCUMENT TYPE: Journal  
LANGUAGE: German

AB The effect of the enriched, neem (*Azadirachta indica* = *Antela*) seed ext. against honeybees was tested in a cage expt. in the field and in an ordinary field trial. Various pollen, and nectar-producing plants were grown in the cage, repeatedly sprayed, and the behavior of the bees and the development of their colonies obsd. In 2 very small bee colonies, consisting of a queen and .apprx.200-300 workers, some damage was obsd. as a no. of young bees were unable to hatch from the cells after biting off the lids. A few bees showed crippled wings and parts of the pupal exuvia adhering to the abdomen. In bigger, but still rather small colonies of .apprx.3000 workers, no damage occurred. **Foraging** bees were not repelled from treated flowers and did not show any signs of damage or atypical behavior. Under field conditions serious damage to bees by neem products seems to be unlikely. However, they are not completely safe to bees and to exclude any risk higher concns. of neem exts. should be avoided on flowers which are attended by numerous honeybees.

L19 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1985:573993 HCAPLUS  
 DOCUMENT NUMBER: 103:173993  
 TITLE: Pesticidal action of neem and certain indigenous plants and weeds of Bangladesh  
 AUTHOR(S): Islam, B. N.  
 CORPORATE SOURCE: Dep. Entomol., Bangladesh Agric. Univ., Mymensingh, Bangladesh  
 SOURCE: Schriftenreihe der GTZ (1984), 161 (Nat. Pestic. Neem Tree Other Top. Plants), 263-90  
 CODEN: SGTZE8; ISSN: 0723-9637  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Exts. of leaf, seeds and oil of *Azadirachta indica* (neem), *Melia azedarach* (chinaberry), *Amoora ruhituka* (pithraj,) and *Annona reticulata* (bullock's heart) showed potential as antifeedants for the control of the brown rice planthopper (BPH), green rice leafhopper (GRL), rice hispa (RH), and the lesser rice weevil (LRW). The air-dried leaves and seeds were ground and extd. in a Soxhlet app. with hexane, Et2O, 95% EtOH, acetone, and H2O. Exts. of hexane (0.1-2.0%) significantly deterred feeding by BPH, GRL, and RH. An ether ext. of hexane-extd. **neem seeds** reduced egg deposition by BPH and GRL in young rice seedlings. Ether and EtOH exts. repelled adults and larvae of RH. Hexane and acetone exts. of seeds of *A. indica*, *M. azedarach*, and *A. ruhituka* reduced feeding activities of adult RH on treated rice seedlings. One to 5% acetone and EtOH exts. from seeds and leaves of *A. reticulata* considerably reduced the population of LRW in fine parboiled rice and deterred feeding by the adults in coarse rice; an ether ext. of seeds reduced feeding by RH at a concn. of 0.1% and by the 12-spotted ladybird beetle at 0.5-1.5%. Young seedlings of rice sprayed with 8-12% of crude and emulsified neem oil significantly reduced feeding by BPH and GRL. With higher concns. of neem oil, fecundity and longevity of adults was reduced. Aq. and EtOH exts. of leaves and seeds of *A. indica*, *M. azedarach*, and *A. reticulata* also deterred feeding by adult pulse beetles and early instar larvae of jute **hairy** caterpillars.

L19 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:146960 HCAPLUS  
 DOCUMENT NUMBER: 90:146960  
 TITLE: The influence of repellent materials and aphid extracts on settling behavior and larviposition of *Myzus persicae* (Sulzer) (Homoptera: Aphididae)  
 AUTHOR(S): Griffiths, D. C.; Greenway, A. R.; Lloyd, Susan L.  
 CORPORATE SOURCE: Rothamsted Exp. Stn.; Harpenden/Herts., UK  
 SOURCE: Bulletin of Entomological Research (1978), 68(4), 613-19  
 CODEN: BERE2; ISSN: 0007-4853  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB When incorporated into an artificial diet or painted on the surface of the membrane contg. the diet, solns. of the insect repellent GD 880 [2-methyl-2-(octylamino)-1-propanol] [53220-12-5] killed the title aphids, whilst exts. of **neem seeds** (*Azadirachta indica*) or exts. of the bodies of *M. persicae* deterred settling and larviposition of apterous adults. The deterring effect occurred even when the painted membrane was covered by a similar but untreated membrane. When applied in culture solns. to the roots of young kale plants, GD 880 and exts. of neem influenced aphids on the foliage only at concns. that visibly affected plant growth, but neem ext. (and to a lesser extent GD 880) decreased aphid colonization when painted on kale leaves at **nondamaging** concns.

L19 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1972:522883 HCAPLUS

DOCUMENT NUMBER: 77:122883

TITLE: Efficacy of some plant products and magnesium carbonate as protectants of wheat seed against attack of *Trogoderma granarium*

AUTHOR(S): Saramma, P. U.; Verma, A. N.

CORPORATE SOURCE: Dep. Entomol., Inst. Agric., Anand, India

SOURCE: Bulletin of Grain Technology (1971), 9(3), 207-10

CODEN: BUGTA2; ISSN: 0007-4896

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Powd.** drupes of dharek (*Melia azedarach*), neem (*Azadirachta indica*) seed kernels, and costus roots, as well as magnesium carbonate [7757-69-9] served as protectants of wheat seeds against attack of *T. granarium* grubs.  $MgCO_3$  (1-2%) gave the best protection during the 1st 2 months, whereas at the end of the 4th and 5th months all concns. of neem (0.5, 1.0, and 2.0%) and 2.0% costus gave comparable results to those of  $MgCO_3$ . For the protection of wheat seeds for 8 months, only **powd** . drupes of **neem seeds** yielded the most protection. The germination of the treated seeds was not affected by any of the treatments.

=> d que stat 122

L9 297 SEA FILE=HCAPLUS ABB=ON ?NEEM?(W)?SEED?

L13 19 SEA FILE=HCAPLUS ABB=ON L9 AND (?COSMETIC? OR ?SKIN? OR  
?HAIR? OR ?NAIL? OR ?LIPS? OR ?DERM? OR ?COLLAGEN? OR ?ELASTIN?  
OR ?STRESS? OR ?AGING? OR ?GLYCOSAMIN? OR ?CELLULIT? OR  
?WRINKLE? OR ?DISCOLOR?)

L14 34 SEA L13

L15 31 DUP REMOV L14 (3 DUPLICATES REMOVED)

L16 4 SEA FILE=HCAPLUS ABB=ON L13 AND (?WATER? OR ?ALCOHOL? OR  
?FATTY?(W) (?ALCOHOL? OR ?ETHER? OR ?ESTER?) OR ?POLYOL? OR  
?GLYCOL? OR (?VEGETABLE? OR ?MINERAL? OR ?SILICON?) (W)OIL? OR  
?LIPOSOME? OR ?LAMINAR?(W)?LIPID?)

L17 4 SEA FILE=HCAPLUS ABB=ON L13 AND ((?AEROSOL? OR ?PUMP?) (W)?SPRA  
Y? OR ?CREAM? OR ?DISPERS? OR ?FOAM? OR GEL? OR ?LOTION? OR  
?MOUSSE? OR ?OINTMENT? OR ?POWDER? OR ?PATCH? OR ?POMADE?)

L18 7 SEA FILE=HCAPLUS ABB=ON L16 OR L17

L20 14 SEA L18

L21 13 DUP REMOV L20 (1 DUPLICATE REMOVED)

L22 31 SEA L15 OR L21

*also here I recombined search  
statements for highlighting convenience.*

=> d ibib abs 122 1-31

L22 ANSWER 1 OF 31 MEDLINE  
 ACCESSION NUMBER: 2003260460 IN-PROCESS  
 DOCUMENT NUMBER: 22670041 PubMed ID: 12785173  
 TITLE: Anti **dermatophytic** activity of *Azadirachta indica* (neem) by invitro study.  
 AUTHOR: Natarajan V; Pushkala S; Karuppiah V P; Prasad P V S  
 CORPORATE SOURCE: Departments of Microbiology & Dermatology, Rajah Muthiah Medical College, Annamalai University, Annamalai Nagar, Tamil Nadu.  
 SOURCE: INDIAN JOURNAL OF PATHOLOGY AND MICROBIOLOGY, (2002 Jul) 45 (3) 311-3.  
 Journal code: 7605904. ISSN: 0377-4929.  
 PUB. COUNTRY: India  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals  
 ENTRY DATE: Entered STN: 20030606  
 Last Updated on STN: 20030606

AB The leaf and seed extracts of the Plant *Azadirachta indica* were tested for **antidermatophytic** activity against **dermatophytes** such as *Trichophyton rubrum*, *Trichophyton*, *Mentagrophytes*, *Trichophyton violaceum*, *Microsporum nanum* and **Epidermophyton floccosum** by tube dilution technique. The minimum Inhibitory concentration (MIC) of **neem seed** extract was found to be lower than that of neem leaf when tested against different species of **Dermatophytes**.

L22 ANSWER 2 OF 31 MEDLINE  
 ACCESSION NUMBER: 2000419879 MEDLINE  
 DOCUMENT NUMBER: 20394732 PubMed ID: 10938819  
 TITLE: A study of **water** relations in neem (*Azadirachta indica*) seed that is characterized by complex storage behaviour.  
 AUTHOR: Sacande M; Buitink J; Hoekstra F A  
 CORPORATE SOURCE: Centre National de Semences Forestieres (CNSF), Ouagadougou, Burkina Faso.. moctar.sacande@algem.pf.wau.nl  
 SOURCE: JOURNAL OF EXPERIMENTAL BOTANY, (2000 Mar) 51 (344) 635-43.  
 Journal code: 9882906. ISSN: 0022-0957.  
 PUB. COUNTRY: ENGLAND; United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals; Space Life Sciences  
 ENTRY MONTH: 200009  
 ENTRY DATE: Entered STN: 20000915  
 Last Updated on STN: 20000915  
 Entered Medline: 20000901

AB Neem (*Azadirachta indica*) seed is reputed to have limited tolerance to desiccation, to be sensitive to chilling and imbibitional **stress**, and to display intermediate storage behaviour. To understand this behaviour the properties of **water** in seed tissues were studied. **Water** sorption isotherms showed that at similar relative humidity (RH), the **water** content was consistently higher in axes than in cotyledons, mainly due to the elevated lipid content (51%) in the cotyledons. Using differential scanning calorimetry, melting transitions of **water** were observed at **water** contents higher than 0.14 g H<sub>2</sub>O g<sup>-1</sup> DW in the cotyledons and 0.23 g H<sub>2</sub>O g<sup>-1</sup> DW in the axes. Beside melting transitions of lipid, as verified by infrared spectroscopy, changes in heat capacity were observed which shifted with **water**



content, indicative of glass-to-liquid transitions. State diagrams are given on the basis of the **water** content of seed tissues, and also on the basis of the RH at 20 degrees C. Longevity was considerably improved, and the sensitivity to chilling/subzero temperatures was reduced when axis and cotyledons were dehydrated to moisture contents  $< \text{ or } =$  of approximately 0.05 g H<sub>2</sub>O g<sup>-1</sup> DW. However, longevity during storage at very low **water** contents was limited. A possible mechanism for the loss of sensitivity to chilling/subzero temperatures at low **water** contents is discussed. The results suggest that dry **neem seeds** in the glassy state have great potential for extended storability, also at subzero temperatures.

L22 ANSWER 3 OF 31 MEDLINE  
 ACCESSION NUMBER: 96178505 MEDLINE  
 DOCUMENT NUMBER: 96178505 PubMed ID: 8622560  
 TITLE: Cytotoxicity of nimbolide, epoxyazadiradione and other limonoids from neem insecticide.  
 AUTHOR: Cohen E; Quistad G B; Casida J E  
 CORPORATE SOURCE: Department of Environmental Science, Policy and Management, University of California, Berkeley 94720-3112, USA.  
 CONTRACT NUMBER: P01 ES00049 (NIEHS)  
 SOURCE: LIFE SCIENCES, (1996) 58 (13) 1075-81.  
 Journal code: 0375521. ISSN: 0024-3205.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199606  
 ENTRY DATE: Entered STN: 19960627  
 Last Updated on STN: 19970203  
 Entered Medline: 19960618

AB **Neem seed** preparations contain not only azadirachtin as the active insect antifeedant or growth regulator but also a variety of their limonoids, some of which are cytotoxic to N1E-115 neuroblastoma (mouse), 143B.TK- osteosarcoma (human) and Sf9 (insect) cultured cell lines. The most potent of these limonoids is nimbolide with an IC<sub>50</sub> ranging from 4 to 10 microM, and **averaging** 6 microM for the three cell lines. Other limonoids of decreasing potency and their average IC<sub>50</sub> values (microM) are epoxyazadiradione 27 microM, salannin 112 microM, and nimbin, deacetylnimbin and azadirachtin each  $>200$  microM (practically nontoxic). Nimbolide at 10 microM acts rapidly in the neuroblastoma cells to induce blebbing associated with disruption of plasma membranes almost instantaneously and 50% loss of cell viability with 30 min. At 5 microM nimbolide, the cells become elongated and assume a neuronal shape accompanied by spikes and lamellipodia within 1-2 hr followed shortly thereafter by extensive cytological changes and vacuolization associated with irreversible processes leading to cell death. Calcium is apparently not involved in the cytotoxic effect since a calcium-free medium, leading to profound morphological changes, does not alter the sensitivity to nimbolide. In contrast, epoxyazadiradione requires higher concentrations and a few hr for 50 % viability loss without major morphological changes, indicating a difference in mode of action for nimbolide and epoxyazadiradione. and epoxyazadiradione.

L22 ANSWER 4 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 ACCESSION NUMBER: 2002:468969 BIOSIS  
 DOCUMENT NUMBER: PREV200200468969  
 TITLE: Effect of phosphorus, salinity and moisture on VAM fungal association in neem (Azadirachta indica Linn.  
 AUTHOR(S): Pande, Manish; Tarafdar, J. C. (1)

CORPORATE SOURCE: (1) Central Arid Zone Research Institute, Jodhpur, RAJ,  
342003: tarafdar@cazri.raj.nic.in India  
SOURCE: Symbiosis, (2002) Vol. 32, No. 3, pp. 195-209. print.  
ISSN: 0334-5114.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Different strains of VAM fungi were screened for their tolerance to varying levels of P, salinity and soil moisture while infecting neem (*Azadirachta indica*). The maximum percent root infection (79%) occurred at 30 mg kg<sup>-1</sup> P with *Glomus fasciculatum*, which also resulted in the highest biomass production. With increased salinity level up to 3dSm-1, there was a slight decrease in percent root infection by VAM fungi. However, when the salinity levels were further increased up to 6dSm-1, a drastic decrease (nearly one third) in percent root colonization occurred. *Glomus mosseae* was found to be the most saline-resistant species as compared to *Glomus fasciculatum*, *Gigaspora margarita* and mixed inocula. It was observed that VAM infection increased with increasing moisture **stress** levels. The maximum infection was observed when soil was maintained at 30-60% available **water**, irrespective of fungal species. *Glomus fasciculatum* sporulated the most and stimulated the highest biomass production, and appeared to be the most efficient VAM fungus for neem and therefore is recommended for propagation of **neem seedlings** in the nursery.

L22 ANSWER 5 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2002:326221 BIOSIS

DOCUMENT NUMBER: PREV200200326221

TITLE: Effect of herbal antifungal agents on 33 Trichophyton isolates.

AUTHOR(S): Dave, Shweta P. (1); Dube, H. C.

CORPORATE SOURCE: (1) Department of Life Sciences, Bhavanagar University, Bhavanagar, 364 002 India

SOURCE: Proceedings of the National Academy of Sciences India Section B (Biological Sciences), (2001) Vol. 71, No. 2, pp. 149-155. print.  
ISSN: 0369-8211.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Thirty-three Trichophyton isolates representing different species and varieties have been examined for their inhibition by 8 test samples derived from *Ricinus communis* (castor) seed oil, *Cocos nucifera* (coconut oil), *Azadirachta indica* (**neem**) seed oil, *Salicornia* seed oil and extracts of *Oscimum sanctum* (tulsi) leaf, neem leaf and *Allium sativum* (garlic) scales and cloves. The results, based on minimal inhibitory concentration (MIC), suggest that except 2 samples (coconut oil and garlic clove extract) rest of the samples caused complete inhibition at varying concentrations. Garlic scales and tulsi leaf extracts showed highest antifungal activity against most Trichophyton isolates (16 and 2 isolates, respectively), followed by **neem seed** oil. The garlic clove was ineffective as an antifungal compound. Similarly, the neem leaf extract had only feeble toxicity with most isolates.

L22 ANSWER 6 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2001:488551 BIOSIS

DOCUMENT NUMBER: PREV200100488551

TITLE: Suitability of carriers and shelf life of *Trichoderma harzianum*.

AUTHOR(S): Sarode, S. V. (1); Gupta, V. R.; Asalmol, M. N.

CORPORATE SOURCE: (1) Department of Entomology, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Krishi Nagar, Akola, M.S., 444 104 India

SOURCE: Indian Journal of Plant Protection, (December, 1998) Vol. 26, No. 2, pp. 188-189. print.  
ISSN: 0253-4355.

DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L22 ANSWER 7 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2001:153650 BIOSIS

DOCUMENT NUMBER: PREV200100153650

TITLE: Growth and biomass production in *Azadirachta indica* seedlings in response to nutrients (N and P) and moisture **stress**.

AUTHOR(S): Puri, S. (1); Swamy, S. L.

CORPORATE SOURCE: (1) Department of Forestry, Indira Gandhi Agricultural University, Raipur, M.P., 492 012 India

SOURCE: Agroforestry Systems, (2001) Vol. 51, No. 1, pp. 57-68. print.  
ISSN: 0167-4366.

DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB Production of quality seedlings is an important aspect of successful tree planting. No information is available on the effect of nutrients and **water** on the growth and development of the seedlings of neem (*Azadirachta indica* A. Juss), an important component of many tropical agroforestry systems. In an experiment in central India, the growth and nutrient-use efficiency of **neem seedlings** grown at various levels of light, nutrients (N and P), and **water stress** were determined. Seedlings were given light (diffused and complete) and nutrient (N and P) treatments comprising either high N-high P, high N-low P, low N-high P, or low N-low P. Seedlings grown in complete light (800  $\mu\text{mol}/\text{m}^2/\text{s}$ ) had four times more biomass than those grown in diffused light (200  $\mu\text{mol}/\text{m}^2/\text{s}$ ). Significant increase in seedling biomass was observed with nitrogen application, while phosphorus had no effect on biomass. Leaves contributed maximum biomass, followed by roots and stem. Nutrient use efficiency decreased with an increase in the supply of nutrients. In another experiment, containerized and bare-root seedlings were subjected to five **watering** treatments, viz., **watering** twice a week, **watering** weekly, **watering** every alternate week, **watering** every third week, and natural precipitation. Plant moisture **stress** affected both growth and survival of **neem seedlings**. Only 50 per cent of seedlings survived in severe drought treatment (no. 4) whereas 90 to 95 per cent seedlings showed growth in all other treatments. Plant moisture **stress** in severe drought treatment averaged -21 bar while in other treatments it ranged from -9 to -12 bar. Shoot-root ratio was high in bare-root seedlings as compared to containerized seedlings. Containerized seedlings had shown better endurance against drought than the bare-root seedlings. The results suggest that **neem seedlings** adjust their nutrient use efficiency and can be grown even under limited available resources. It is also inferred that the species can tolerate soil resource depletion caused by competitor species.

L22 ANSWER 8 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2001:40359 BIOSIS

DOCUMENT NUMBER: PREV200100040359

TITLE: Is oxidative **stress** involved in the loss of neem (*Azadirachta indica*) seed viability.

AUTHOR(S): Sacande, Moctar (1); Hoekstra, Folkert A.; van Aelst,

CORPORATE SOURCE: Adriaan C.; De Vos, C. H. Ric  
(1) Laboratory of Plant Physiology, Wageningen University,  
Arboretumlaan 4, 6703 BD, Wageningen:  
moctar.sacande@algem.pf.wau.nl Netherlands  
SOURCE: Seed Science Research, (September, 2000) Vol. 10, No. 3,  
pp. 381-392. print.  
ISSN: 0960-2585.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Neem (*Azadirachta indica*) is a valuable multipurpose tree of tropical arid and semi-arid regions. The use of its seeds is hindered by their short storage longevity. The possible causes of rapid loss of viability were investigated on different seed lots during exposure to 32% and 75% RH at 20degreeC. Within 6 months the seeds almost lost germinability at 75% RH, whereas at 32% RH viability decreased only slightly. On rehydration, the axis cells from nongeminable seeds had lost turgor, whereas those from viable seeds were turgid as visualized by low temperature scanning electron microscopy images of fractured axes. Glutathione oxidation status was used to estimate oxidative **stress** during storage. Oxidative **stress** was much higher at 75% RH storage than at 32% RH, mainly caused by the rapid loss of reduced glutathione at 75% RH. Oligosaccharides and phospholipids decreased, and free fatty acids increased during storage at the high RH but remained at a constant level at the low RH. However, the degree of fatty acid unsaturation between viable and nonviable seed lots was similar. During the (slow) dehydration of fresh seeds, total glutathione, oligosaccharides and phospholipids accumulated, particularly in the initially more hydrated seeds. We interpret this accumulation as a post-maturation process associated with acquisition of the capability for long-term survival in the dry state. The mass ratio of oligosaccharides to sucrose was 0.19 on average in dehydrated **neem seeds**. The data suggest that the storage behaviour of **neem seeds** has features that characterize it as orthodox.

L22 ANSWER 9 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2000:211256 BIOSIS

DOCUMENT NUMBER: PREV200000211256

TITLE: Effect of botanical insecticides on the **foraging**  
and feeding behavior of the coccinellid predator  
*Cryptolaemus montrouzieri*.

AUTHOR(S): Simmonds, M. S. J. (1); Manlove, J. D.; Blaney, W. M.;  
Khambay, B. P. S.

CORPORATE SOURCE: (1) Jodrell Laboratory, Royal Botanic Gardens, Kew,  
Richmond, Surrey, TW9 3AB UK

SOURCE: *Phytoparasitica*, (April, 2000) Vol. 28, No. 2, pp. 99-107.  
ISSN: 0334-2123.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB To investigate the effect of botanicals on the **foraging** behavior of the mealybug predator *Cryptolaemus montrouzieri* Mulsant, predator larvae and adults were exposed to leaves and the mealybug *Planococcus citri* (Risso) treated with one of the following: a crude **neem seed** extract; a formulation of azadirachtin (Azatin EC(R)); a pyrethrum extract; and one of two naphthoquinones isolated from *Calceolaria andina* Benth. (BTG 504 and BTG 505). All the botanicals influenced the **foraging** behavior of *C. montrouzieri*, at one or more concentrations. Larval and adult **foraging** behavior was influenced most by BTG 504 and neem also affected larval behavior; the

predators contacted fewer treated leaves and spent less time on treated than on untreated leaves. Larvae also consumed fewer mealybugs treated with BTG 504 and BTG 505 compared with untreated mealybugs.

L22 ANSWER 10 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1999:312520 BIOSIS

DOCUMENT NUMBER: PREV199900312520

TITLE: A multifactorial study of conditions influencing longevity of neem (*Azadirachta indica*) seeds.

AUTHOR(S): Sacande, Moctar (1); Hoekstra, Folkert A.; van Pijlen, Jaap G.; Groot, Steven P. C.

CORPORATE SOURCE: (1) Centre National de Semences Forestieres (CNSF), Ouagadougou Burkina-Faso

SOURCE: Seed Science Research, (Dec., 1998) Vol. 8, No. 4, pp. 473-482.

ISSN: 0960-2585.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The longevity of neem, *Azadirachta indica*, seeds from African Sahelian (Burkina Faso) and Asian (Sri Lanka) provenances was studied over two years of storage under different conditions of moisture and temperature. After drying to equilibrium moisture content (MC) at different relative humidities at 20degreeC, seeds were placed in open storage at 20degreeC or hermetically sealed in packets at temperatures ranging from -20 to +20degreeC. There was hardly any difference in storage behaviour between seed batches/lots, whatever their provenance. Seeds originating from mature yellow fruits lived longer than seeds from green or brown fruits. In all storage experiments with seeds having MCs gtoreq 10%, viability was preserved best at 10-15degreeC, indicating that **neem seed** is chilling (and freezing) sensitive. There was no survival longer than 2 years under these conditions. At MCs of 4-8%, seeds were considerably more tolerant of low temperature storage and had 40-60% viability after 2 years at all temperatures tested (-20 to +20degreeC). However, the seeds were sensitive to imbibitional **stress**, which could be alleviated by imbibition at temperatures of 25-30degreeC or above. The difficult storage behaviour of **neem seed** seems to stem from: (1) the sensitivity to low temperatures at MCs gtoreq 10%; (2) the extreme sensitivity to imbibitional **stress** after storage at ltoreq 8% MC; (3) underestimation of the **water** activity due to the high oil content of the **neem seeds**, causing unexpected metabolic **stress** in the higher MC and temperature range.

L22 ANSWER 11 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1999:88538 BIOSIS

DOCUMENT NUMBER: PREV199900088538

TITLE: The influence of stage of seed maturity, moisture content and storage temperature on the survival of neem (*Azadirachta indica*) seed in storage.

AUTHOR(S): Eeswara, J. P.; Allan, E. J.; Powell, A. A. (1)

CORPORATE SOURCE: (1) Dep. Agric., Univ. Aberdeen, Aberdeen AB24 5UA UK

SOURCE: Seed Science and Technology, (1998) Vol. 26, No. 2, pp. 299-308.

ISSN: 0251-0952.

DOCUMENT TYPE: Article

LANGUAGE: English

AB **Neem seed** extracted from fruit harvested at two stages of maturity (referred to as ripe and fully mature) were stored at three seed moisture contents (me) (undried, <15% mc, <10% mc) and in three

storage conditions viz. an air-conditioned room (22degree C, 76% relative humidity), refrigerator (3degree C) and freezer (-20degree C) in sealed thick polythene bags. The germination of the undried ripe seed was high (86%) and remained above 80% when seeds were dried to 13.2 and 7.1% mc whereas the low germination (46%) of the fully mature seed fell to around 30% after drying to 14.2 and 8.1% mc. At all seed mcs the loss of germination during storage occurred most slowly in the refrigerator followed by the air-conditioned room. With the exception of seed having <10% mc, storage in the freezer was highly **damaging**. Thus after 5 weeks storage at 13.2% me the ripe seeds had germinations of 65%, 52% and 0% when stored in the refrigerator, air-conditioned room and freezer respectively. Reducing the seed me prolonged the storage life of both ripe and fully mature seeds in all three storage conditions with the result that the germination of ripe seed remained above 50% for 24 weeks when the seeds were stored at 7.1% mc. These results are discussed in relation to the classification of neem as a recalcitrant, intermediate or orthodox seed.

L22 ANSWER 12 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1999:53219 BIOSIS

DOCUMENT NUMBER: PREV199900053219

TITLE: Effects of neem and radiation on the larvae of hide beetle, **Dermestes maculatus** Degeer (Coleoptera: **Dermestidae**).

AUTHOR(S): Saha, Ashok Kumar; Shahjahan, Reza M. (1)

CORPORATE SOURCE: (1) Inst. Food Radiat. Biol., Atomic Energy Res.

Establishment, G.P.O. Box No. 3787, Dhaka Bangladesh  
SOURCE: Bangladesh Journal of Zoology, (June, 1998) Vol. 26, No. 1, pp. 7-11.  
ISSN: 0304-9027.

DOCUMENT TYPE: Article

LANGUAGE: English

AB The **alcoholic** extracts of **neem seed**

endosperm and gamma radiation were separately tested on the 6th instar larvae of **Dermestes maculatus** to investigate their effect on larval mortality, pupation, adult emergence and longevity. Eighty eight percent mortality was obtained at a dose of 19700 ppm of the crude neem extract. The dose 1972 ppm had virtually no lethal effect, however, the duration of pupal period was prolonged by 2-3 days. At the higher doses even up to 19700 ppm the neem extract could not prevent adult emergence but resulted in deformed adults with a reduced life span. Hundred percent larval mortality was obtained at a radiation dose ranging from 100 to 1000 Gy. However, pupae did not metamorphose into adults at radiation doses from 15 to 50 Gy and pupal period was prolonged by 5-17 days. Irradiation at 10 Gy had no effect on adult emergence but 50 percent adults showed deformity and longevity was reduced to 30-35 days compared to 45-50 days in controls.

L22 ANSWER 13 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1995:482752 BIOSIS

DOCUMENT NUMBER: PREV199598497052

TITLE: On the effect of neem products on Bemisia tabaci using different adjuvants.

AUTHOR(S): Tappertzhofen, Sabine

CORPORATE SOURCE: Universitaet Giessen, Inst. Phytopathologie Angewandte Zoologie, Ludwigstr. 23, D-35390 Giessen

SOURCE: Anzeiger fuer Schaedlingskunde Pflanzenschutz Umweltschutz, (1995) Vol. 68, No. 6, pp. 137-139.  
ISSN: 0340-7330.

DOCUMENT TYPE: Article

LANGUAGE: German

SUMMARY LANGUAGE: German; English

AB As neem (*Azadirachta indica* A. Juss.) seed is still quite expensive in the Dominican Republic, it was tried to reduce the dosage by increasing the efficiency of the insecticide using the adjuvant Tersan (**Alcohol** -9-ethylen-oxid). The effect of various aqueous **neem seed** extracts (25 g seeds per l, 40 g/l, 60 g/l, oilcake 15 g/l) and formulated neem oil mixed with the adjuvant was tested in laboratory and field trials against *Bemisia tabaci* on eggplant. In laboratory trials the efficiency of all tested products except neem oil was increased by 24% to 48%. The increase of efficiency was more pronounced on very **hairy** than on glabrous plants. These positive results could not be confirmed in field trials, where the adjuvant had no effect or even reduced the efficiency of the insecticide. The effect of the adjuvant is a reduction of the surface tension of the spraying mixture for better wetting and to adhere it to the leaf. As the laboratory plants usually possessed much more **hairs** than those in the field, the insecticide could develop its full effect in the field even without support by the adjuvant.

L22 ANSWER 14 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1995:359834 BIOSIS

DOCUMENT NUMBER: PREV199598374134

TITLE: Effects of a **neem seed** extract  
(*Azadirachta indica* A. Juss) on the development of the  
**Dermaptera**, *Forficula auricularia* L.

AUTHOR(S): Sauphanor, B.; Lenfant, C.; Sureau, F.

CORPORATE SOURCE: INRA, Stn. Recherches Zool. Apidol., Domaine St. Paul, 84  
143 Montfavet Cedex France

SOURCE: Journal of Applied Entomology, (1995) Vol. 119, No. 3, pp.  
215-219.

ISSN: 0931-2048.

DOCUMENT TYPE: Article

LANGUAGE: French

SUMMARY LANGUAGE: French; English

AB Young nymphs and adults of the European earwig, *Forficula auricularia* L., were exposed in the laboratory and in the field to an extract from seed kernels of the neem tree, *Azadirachta indica* A. Juss. No effect was observed on mortality, weight, food intake or fecundity of adults when treated directly in the laboratory with 50 ppm of azadirachtin. None of the second instar nymphs treated by contact with the fresh residue or fed on medium treated with 25, 50, or 250 ppm of the product could achieve their development. The nymphs exhibited a decrease of food intake and of ponderal growth a few days after the treatment, as well as an increase of the intermoulting delay. Behavioural tests revealed no repellent or antifeedant effect of the product. Applications in peach tree orchards resulted in a 70% reduction of nymphal population of earwigs. Neem products could be used to reduce earwig populations if applied when young instars are present. They should therefore be avoided during this period on crops where these insects need to be preserved because of their predation on aphids.

L22 ANSWER 15 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1995:271948 BIOSIS

DOCUMENT NUMBER: PREV199598286248

TITLE: The Adventure of Making New Vaccines.

AUTHOR(S): Talwar, G. P.

CORPORATE SOURCE: Natl. Inst. Immunol., New Delhi 110 067 India

SOURCE: Proceedings of the Indian National Science Academy Part B  
Biological Sciences, (1994) Vol. 60, No. 5, pp. 389-402.

ISSN: 0073-6600.

DOCUMENT TYPE: General Review

LANGUAGE: English

AB Described are two vaccines, one developed against leprosy and the other for control of fertility in women. The leprosy vaccine based on a cultivable non-pathogenic mycobacteria (*Mycobacterium w*) has completed Phase III clinical trials in two urban leprosy control centres and in a rural community block in Kanpur Dehat along with the National Leprosy Eradication Programme. The vaccine has significant therapeutic properties. Multibacillary patients given the vaccine once every three months in addition to the standard chemotherapy, become bacillary negative in significantly shorter period and immunization renders a large majority of these patients to lepromin positivity status, which drugs alone do not bring about. No ill effects of the vaccine were noted in either urban or rural clinical trials. The background leading to the development of this vaccine is discussed. A vaccine inducing antibodies against human chorionic gonadotropin (hCG) has also been developed. The strategy adopted to make this vaccine is discussed. This vaccine after extensive experimental studies and pre-clinical toxicology has completed Phase I and Phase II clinical trials in women, which have provided data on its safety, reversibility and efficacy at and above antibody titres of 50 ng/ml. The vaccine acts without disturbance of ovulation and menstrual profiles. To enable the use of this vaccine on a large scale, R-DELTA has been carried out to cover the logistic needs. The initial lag period of about three months for the antibody titres build-up, during primary immunization is planned to be covered by a companion approach. A single intrauterine application of extracts of **neem seeds** blocks fertility for a few months without impairing ovulation. Biodegradable microspheres are under development for a single contact point delivery of multiple doses of the vaccine. A live recombinant beta-hCG vaccine has also been made that elicits high and long term antibody response against hCG. This vaccine is currently in clinical trials in Mexico in patients of lung cancer of the type that makes hCG and or its subunits. HCG or its subunits act as autocrine growth factors for the tumour cells and antibodies inactivating hCG inhibit tumour growth. The vaccine has been well tolerated and no metastasis have been detected over two years of follow-up.

L22 ANSWER 16 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1994:544555 BIOSIS

DOCUMENT NUMBER: PREV199598004103

TITLE: Effects of **neem seed** derivatives on brown planthopper symbiotes.

AUTHOR(S): Raguraman, S. (1); Saxena, R. C.

CORPORATE SOURCE: (1) Tamil Nadu Agric. Univ., Coimbatore 641003 India

SOURCE: Phytoparasitica, (1994) Vol. 22, No. 4, pp. 299-307.

ISSN: 0334-2123.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Populations of intracellular symbiotes declined significantly in brachypterous females of the brown planthopper, *Nilaparvata lugens* (Stal), which were **stressed** during nymphal development by **caging** them on IR20 rice plants treated with 3% neem oil, 5% **neem seed** kernel aqueous extract, or 10% neem cake aqueous extract. In addition, nymphs grew poorly and symbiote populations in prospective females declined, when reared on rice plants grown in soil treated with neem cake; this indicates systemic action of bioactive neem constituents. Addition of custard-apple oil to neem oil did not enhance the inhibitory effects. The effects of neem derivatives on the symbiotes may be either host-mediated-possibly through disturbed neuroendocrine homeostasis, or



direct-leading to perturbations of host-symbiote equilibrium.

L22 ANSWER 17 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1993:318492 BIOSIS

DOCUMENT NUMBER: PREV199396026842

TITLE: Effect of plant **water stress** on honeydew production, weight gain and oviposition of brown planthopper *Nilaparvata lugens* on rice cultivars.

AUTHOR(S): Baqui, M. A. (1); Kershaw, W. J. S.

CORPORATE SOURCE: (1) Dep. Zool., Inst. Life Sci., Jahangirnagar Univ., Savar, Dhaka Bangladesh

SOURCE: Entomologia Experimentalis et Applicata, (1993) Vol. 67, No. 1, pp. 25-30.

ISSN: 0013-8703.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Glasshouse studies were made on honeydew production, adult and nymphal body weight gain, fecundity and size of egg groups of brown planthopper *Nilaparvata lugens* (Stal) (Homoptera: Delphacidae) (BPH) on CVS TN1, ASD7, Babawee, Mudgo, Rathu-Heenati and Ptb33 rice plants with **watering** regimes of 10 ml, 20 ml, 30 ml and excess **water** daily. Honeydew production, weight gain, fecundity and size of egg groups were greatest on TN1, followed by ASD7. BPH did less well on Babawee, Mudgo and Rathu-Heenati and they did worst on Ptb33. **Watering** regimes greatly affected performance, with significantly less honeydew, less weight gain, lower fecundity and smaller egg groups on plant with 10 ml **water** daily than on plants with excess **water**. The 20 ml and 30 ml **watering** regimes also significantly reduced honeydew production on TN1 and ASD7 and fecundity and weight gain of adults and nymphs on Mudgo. On Babawee adults gained most weight on the 20 ml and 30 ml treatments, and nymphs gained most weight on the 30 ml treatment. BPH laid most eggs on TN1, ASD7, Babawee and Rathu-Heenati when plants were given 30 ml **water** daily.

L22 ANSWER 18 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1993:192981 BIOSIS

DOCUMENT NUMBER: PREV199395103431

TITLE: Effect of azadirachtin on vitellogenic oocyte development in *Trogoderma granarium* everts (Coleoptera: Dermestidae).

AUTHOR(S): Susha, C.; Karnavar, G. K. (1)

CORPORATE SOURCE: (1) Dep. Zoology, University Kerala, Kariavattom, Thiruvananthapuram 695 581 India

SOURCE: Indian Journal of Experimental Biology, (1993) Vol. 31, No. 2, pp. 188-190.

ISSN: 0019-5189.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Azadirachtin, a major component of **neem seed** extract, inhibits feeding, growth and reproduction in insects. In *Trogoderma granarium* reduction in the vitellogenic number was observed when pupae were topically treated with azadirachtin. Disruption of the hormonal control of oocytes development is hypothesized to be mode of action of azadirachtin.

L22 ANSWER 19 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1991:476630 BIOSIS

DOCUMENT NUMBER: BA92:110390

TITLE: INHIBITION OF OVARIAN DEVELOPMENT BY NEEM KERNEL EXTRACT IN *TROGODERMA-GRANARIUM*.

AUTHOR(S): CHELLAYAN S; KARNAVAR G K  
CORPORATE SOURCE: DEP. ZOOLOGY, UNIV. KERALA, KARIAVATTOM, TRIVANDRUM-695  
581, INDIA.  
SOURCE: J ANIM MORPHOL PHYSIOL, (1990) 37 (1-2), 109-112.  
CODEN: JAMPA2. ISSN: 0021-8804.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

AB **Neem seed** extracts have distinct growth-disrupting properties. Reproduction in insects is also severely affected by neem compounds. In **Trogoderma granarium**, **neem seed** kernel extracts inhibit normal pupal-adult development. In the resulting adultoids, severe inhibition of oocyte differentiation was observed which could be due to the general retardation of development of the posterior part of the body or low titer of the gonadotropic hormones produced by the corpora allata.

L22 ANSWER 20 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1990:424622 BIOSIS  
DOCUMENT NUMBER: BA90:85423  
TITLE: INFLUENCE OF NEEM KERNEL EXTRACT ON MORPHOGENESIS AND  
VITELLOGENIC OOCYTE DEVELOPMENT IN **TROGODERMA**  
-GRANARIUM EVERTS.  
AUTHOR(S): CHELLAYAN S; KARNAVAR G K  
CORPORATE SOURCE: DEP. ZOOLOGY, UNIV. KERALA, KARIAVATTOM, TRIVANDRUM 695  
581, INDIA.  
SOURCE: PROC INDIAN ACAD SCI ANIM SCI, (1990) 99 (2), 113-118.  
CODEN: PIANDR. ISSN: 0253-4118.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

AB **Neem seed** kernel extracts adversely affect the growth and morphogenesis of insects. In **Trogoderma granarium**, **neem seed** kernel extract was found to inhibit normal pupal-adult development. The malformed adults comprised a heterogenous group of transitory forms between the pupal and adult types. Older pupae were less sensitive to the compound. In the seemingly normal surviving adults of **Trogoderma granarium** a reduction in the number of vitellogenic oocytes was found. The active compound(s) in the **neem seed** kernel extracts is proposed to produce the observed effects by regulating morphogenetic hormone titres, though the precise mode of action cannot be safely defined.

L22 ANSWER 21 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1989:313497 BIOSIS  
DOCUMENT NUMBER: BA88:27227  
TITLE: CORPUS CARDIACUM A TARGET FOR AZADIRACHTIN.  
AUTHOR(S): REMBOLD H; SUBRAHMANYAM B; MUELLER T  
CORPORATE SOURCE: MAX-PLANCK-INST. FOR BIOCHEM., D-8033 MARTINSRIED, FRG.  
SOURCE: EXPERIENTIA (BASEL), (1989) 45 (4), 361-363.  
CODEN: EXPEAM. ISSN: 0014-4754.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

AB Azadirachtin A, an insect growth inhibitor derived from **neem seed**, when injected at a physiological dose, inhibits the hormonally controlled ovarian development in *Locusta migratoria*. Its tritiated dihydro derivative concentrates more in the corpus cardiacum than in the brain. Translocation and release of the neurosecretory proteins labeled with L-[35S]-cysteine in the corpus cardiacum is very poor in locust under azadirachtin **stress**. It is concluded that azadirachtin may influence the release of trophic hormones from the corpus cardiacum leading to alterations in timing and titer of morphogenetic

hormone pools.

L22 ANSWER 22 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1989:134722 BIOSIS

DOCUMENT NUMBER: BA87:69375

TITLE: THE EFFECT OF METHANOLIC EXTRACTS OF **NEEM**  
**SEED** KERNEL ON FEEDING DEVELOPMENT AND SURVIVAL OF  
SPILOSOMA-MACULATUS WLK. LEPIDOPTERA ARCTIIDAE.

AUTHOR(S): UMEH E-D N

CORPORATE SOURCE: DEP. PARASITOLOGY AND ENTOMOLOGY, ANAMBRA STATE UNIV.  
TECHNOLOGY, AWKA CAMPUS, ANAMBRA STATE, NIGERIA.

SOURCE: J APPL ENTOMOL, (1988) 106 (5), 494-499.

CODEN: JOAEEB. ISSN: 0044-2240.

FILE SEGMENT: BA; OLD

LANGUAGE: English

AB Cowpea leaves, *Vigna unguiculata* (L.) Walp, treated with high concentrations (10% and 5%) of methanolic extract of **neem seed** kernel were found to be highly repellent and phagodeterrent to the second and fourth instar larvae (L2 and L4), respectively of *Spilosoma maculatus* so that the larvae shrank away on contact with the treated leaves. Only 10% **neem seed** kernel extract (NSKE) however, remained completely repellent and phagodeterrent to both L2 and L4 over 48 h test period. Lower concentrations of NSKE were progressively less repellent so that on contract, the larvae investigated the leaves probably for suitable feeding portions. Feeding on treated leaves was minimal compared with control. No acute toxicity was found in the larvae that fed on treated leaves, although there was, in the long run, 100% mortality of test L2 that fed on treated leaves. On the other hand, there was 90% and 10% survival of L4 that fed on leaves treated with 0.1 and 1.0% NSKE, respectively. At all the other concentrations used, there was 100% mortality of test L4. The test larvae showed two lines of response to the presence of the active principles of NSKE in their system: 1. subsequent feeding on untreated leaves was greatly reduced so that at death, larval weight was much lower than in the control. 2. feeding appeared uninhibited but the larvae suddenly died after extruding some liquid through the intersegmental regions of their abdomen. Malformations resulting from ingestion of NSKE treated leaves included total loss of long body **hairs** and dull appearance while physiological problems included uncoordinated movement.

L22 ANSWER 23 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1987:228541 BIOSIS

DOCUMENT NUMBER: BA83:116711

TITLE: ON THE EFFECT OF THE ENRICHED AND FORMULATED **NEEM**  
**SEED** KERNEL EXTRACT AZT-VR-K ON APIS-MELLIFERA L.

AUTHOR(S): SCHMUTTERER H; HOLST H

CORPORATE SOURCE: INST. PHYTOPATHOL. ANGEWANDTE ZOOL., JUSTUS-LIEBIG-UNIV.,  
LUDWIGSTRASSE 23, D-6300 GIESSEN.

SOURCE: J APPL ENTOMOL, (1987) 103 (2), 208-213.

CODEN: JOAEEB.

FILE SEGMENT: BA; OLD

LANGUAGE: German

AB The effect of the enriched, formulated neem (*Azadirachta indica* = *Antelaea azadirachta*) seed kernel extract AZT-VR-K against honeybees was tested in a cage experiment in the field and in an ordinary field trial. Various pollen and nectar-producing plants were grown in the cage, repeatedly sprayed and the behavior of the bees and the development of their colonies observed. In two very small bee colonies, consisting of a queen and about 200-300 workers, some damage was observed as a number of young bees were unable to hatch from the cells after biting off the lids. A few bees

showed crippled wings and parts of the pupal exuvia adhering to the abdomen. In bigger, but still rather small colonies of ca. 3000 workers, no damage occurred. **Foraging** bees were not repelled from treated flowers and did not show any signs of damage or atypical behavior. Under field conditions serious damage to bees by neem products seems to be unlikely. However, they are not completely safe to bees and to exclude any risk it should be avoided to spray higher concentrations of neem extracts on flowers which are attended by numerous honeybees.

L22 ANSWER 24 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1979:205685 BIOSIS

DOCUMENT NUMBER: BA68:8189

TITLE: THE INFLUENCE OF REPELLENT MATERIALS AND APHID EXTRACTS ON SETTLING BEHAVIOR AND LARVIPOSITION OF MYZUS-PERSICAE HEMIPTERA HOMOPTERA APHIDIDAE.

AUTHOR(S): GRIFFITHS D C; GREENWAY A R; LLOYD S L

CORPORATE SOURCE: ROTHAMSTED EXP. STN., HARPENDEN, HERTS., ENGL., UK.

SOURCE: BULL ENTOMOL RES, (1978 (RECD 1979)) 68 (4), 613-620.

CODEN: BERE2. ISSN: 0007-4853.

FILE SEGMENT: BA; OLD

LANGUAGE: English

AB When incorporated into an artificial diet or painted on the surface of the membrane containing the diet, solutions of the insect repellent GD 880 (2-methyl-2-(octylamino)-1-propanol) killed aphids. Extracts of **neem seeds** (*Azadirachta indica*) or extracts of *M. persicae* bodies deterred settling and larviposition of apterous adults. The deterrent effect occurred even when the painted membrane was covered by a similar but untreated membrane. When applied in culture solutions to the roots of young kale plants, GD 880 and extracts of neem influenced aphids on the foliage only at concentrations that visibly affected plant growth, but neem extract (and to a lesser extent GD 880) decreased aphid colonization when painted on kale leaves at non-damaging concentrations.

L22 ANSWER 25 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1978:68592 BIOSIS

DOCUMENT NUMBER: BR15:12092

TITLE: ON THE USE OF **NEEM SEED KERNEL POWDER** AS A PROTECTANT FOR STORED PADDY.

AUTHOR(S): SARADAMMA K; DALE D; NAIR M R G K

SOURCE: Agric. Res. J. Kerala, (1977 (RECD 1978)) 15 (1), 102-103.

CODEN: ARJKAQ. ISSN: 0002-1628.

FILE SEGMENT: BR; OLD

LANGUAGE: Unavailable

L22 ANSWER 26 OF 31 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2000-687737 [67] WPIDS

DOC. NO. CPI: C2000-209425

TITLE: Antiseptic herbal and mineral composition for topical treatment of wounds, e.g. burns or cuts, accelerates healing and prevents infection.

DERWENT CLASS: B04 B07

INVENTOR(S): AMAR, L; SHYAM, K

PATENT ASSIGNEE(S): (AMAR-N) L'AMAR INT PVT LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
ZÄ 9802679	A	19991229	(200067)*		16

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
ZA 9802679	A	ZA 1998-2679	19980330

PRIORITY APPLN. INFO: ZA 1998-2679 19980330

AN 2000-687737 [67] WPIDS

AB ZA 9802679 A UPAB: 20001223

NOVELTY - Preparation of an antiseptic herbal composition for treating burns, cuts and similar wounds involves: (a) disintegrating the herbal and mineral ingredients Parkar bark (*Ficus infectoria* Roxb), Neem Chhal bark (*Azadirachta indica*), Malkangi seed (*Celastrus*), Karani Chhal bark (*Pongamia pinnata*) and Saravan Geru (*Octire*); (b) pulverizing to form a **powder**; and (c) forming an aqueous extract of the **powder**

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a herbal composition for treating burns, cuts and similar wounds, which contains the ingredients specified in (a).

ACTIVITY - Vulnerary; antibacterial; antifungal; **dermatological**.

MECHANISM OF ACTION - None given.

USE - The composition is useful for treating wounds such as burns, scalds, cuts, abrasions, cracks on the feet and hands, carbuncles, sunburn blisters or **skin** infections such as urticaria, eczema or scabies. It has antibacterial and antifungal activities, prevents and combats infection and accelerates healing.

ADVANTAGE - The composition is relatively soft, smooth and easy to use; has smoothing, cooling and antinfecive effects; and promotes rapid healing, possibly without leaving a scar.  
Dwg.0/0

L22 ANSWER 27 OF 31 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2000-117087 [10] WPIDS

DOC. NO. CPI: C2000-035857

TITLE: Insect repelling food **packaging** materials for protecting food from insect infestation.

DERWENT CLASS: C07

INVENTOR(S): DIAS, R; FERIZLI, A G; MANSUR, F; NAVARRO, S; MANSOUR, F

PATENT ASSIGNEE(S): (ISRA) ISRAEL MIN AGRIC-ARO

COUNTRY COUNT: 86

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000000022	A1	20000106	(200010)*	EN	32
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL					
OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB					
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU					
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR					
TT UA UG US UZ VN YU ZA ZW					
AU 9945304	A	20000117	(200026)		
IL 125130	A	20021110	(200282)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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WO 2000000022 A1	WO 1999-IL354	19990627
AU 9945304 A	AU 1999-45304	19990627
IL 125130 A	IL 1998-125130	19980628

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9945304	A Based on	WO 200000022

PRIORITY APPLN. INFO: IL 1998-125130 19980628

AN 2000-117087 [10] WPIDS

AB WO 200000022 A UPAB: 20000228

NOVELTY - An insect repelling food **packaging** material comprises a food **packaging** material treated with a non toxic to human, insect repelling substance or a combination of substances, and optionally containing non toxic synergists and insect repellent promoters.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method of protecting food from insect infestation comprising wrapping the food with the invented **packaging** material.

USE - For protecting food from insect infestation.

ADVANTAGE - The improved insect repelling food **packaging** materials are non-toxic to humans and animals. They are also safe and environmentally friendly.

Dwg.0/0

L22 ANSWER 28 OF 31 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1995-030269 [04] WPIDS

CROSS REFERENCE: 1992-227638 [28]; 1994-100288 [12]; 1995-169559 [22]

DOC. NO. CPI: C1995-013590

TITLE: Clarified neem oil and neem wax - used as insecticide and fungicides.

DERWENT CLASS: C03

INVENTOR(S): LAREW, H G; LOCKE, J C; WALTER, J F

PATENT ASSIGNEE(S): (GRAC) GRACE &amp; CO-CONN W R

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5372817	A	19941213	(199504)*	EN	8

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5372817	A	Cont of	US 1991-637027 19910103
		Cont of	US 1992-818748 19920107
		CIP of	US 1992-866968 19920413
		Cont of	US 1992-949180 19920921
			US 1993-165618 19931213

PRIORITY APPLN. INFO: US 1992-949180 19920921; US 1991-637027

19910103; US 1992-818748 19920107; US

1992-866968 19920413; US 1993-165618 19931213

AN 1995-030269 [04] WPIDS

CR 1992-227638 [28]; 1994-100288 [12]; 1995-169559 [22]

AB US 5372817 A UPAB: 19950619

Non-polar, hydrophobic solvent extd. neem oil which has been cooled to 5-1deg.C to ppt and remove a neem wax and which has less than 1 wt.% azadirachtin (AZ) is new.

Also claimed is a neem wax removed from the above non-polar hydrophobic solvent extd. neem oil.

Also claimed is a method of preparing insecticides having less than 1 wt.% AZ from **neem seeds** or expressed neem oil, which comprises:

- (i) extracting **neem seeds** or expressed neem oil with a non-polar hydrophobic solvent to obtain a neem oil extract;
- (ii) removing the solvent from the neem oil extract to obtain a neem oil;
- (iii) cooling to 5-15deg.C to ppt neem wax having insecticidal activity;
- (iv) sep and recovering the neem wax from the neem oil to obtain a clarified neem oil having insecticidal activity; and
- (v) recovering clarified neem oil.

USE -The prods can be used as natural insecticides for protecting stored vegetables, fruit and grains or animals (e.g. **skin**, fur or wool) or objects such as books, papers or cloth from pests or fungi. The neem wax may be easily incorporated into protective soaps, repellent sticks and repellent candles, and the oil can be used as a spray or applied as a soap, **gel**, liq., or salve to protect e.g. **skin** or wool.

The compsns. are used to treat e.g. colorado potato beetle, diamond backed moth, whitefly, mealy bug, aphids, hornworm, lacebug, mites, fleas, ticks, mosquitos and flies and fungi such as mildews, rusts, dollar spot, brown **patch**, black spots, and botrytis.

The neem oil can be used to control parasitic pests on mammals, e.g. lice, ticks, and scabies as well as eczema and **dermatitis**.

The compsns. are also used to repel moths in confined spaces e.g. closets.

ADVANTAGE - The prods. have consistent ability to repel pests from plant surfaces and to kill pests and fungi at various life stages (i.e. insect larvae as well as adults) and ovicides. The neem wax has increased insect repellency, increased fungicidal activity and increased wetting ability and the clarified neem oil has increased insect repellency, decreased phytotoxicity, decreased **skin** irritability, increased fungicidal activity and increased wetting ability over prior art **neem seed** extracts.

Dwg.0/0

L22 ANSWER 29 OF 31 WPIDS (C) 2003 THOMSON DERWENT  
 ACCESSION NUMBER: 1994-100288 [12] WPIDS  
 CROSS REFERENCE: 1992-227638 [28]; 1995-030269 [04]; 1995-169559 [22]  
 DOC. NO. CPI: C1994-046181  
 TITLE: Prepn. of azadirachtin-free fungicides from **neem seeds** - comprises extracting **neem seeds** with a non-polar hydrophobic solvent, etc., solidifying oil to form wax then clarifying.  
 DERWENT CLASS: C05  
 INVENTOR(S): LAREW, H G; LOCKE, J C; WALTER, J F  
 PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5298251	A	19940329	(199412)*		7

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5298251	A	Cont of	US 1991-637027 19910103
		Cont of	US 1992-818748 19920107
		CIP of	US 1992-866968 19920413
		Cont of	US 1992-949180 19920921
		Cont of	US 1992-959860 19921013
			US 1993-94287 19930721

PRIORITY APPLN. INFO: US 1992-949180 19920921; US 1991-637027  
 19910103; US 1992-818748 19920107; US  
 1992-866968 19920413; US 1992-959860  
 19921013; US 1993-94287 19930721

AN 1994-100288 [12] WPIDS

CR 1992-227638 [28]; 1995-030269 [04]; 1995-169559 [22]

AB US 5298251 A UPAB: 19950619

Preparing fungicides derived from **neem seeds** or expressed neem oil, which fungicides are free of azadirachtin, comprises: (a) extracting seeds with non-polar, hydrophobic solvent to obtain neem oil extract; (b) removing solvent from extract to obtain oil; (c) cooling oil to temp. sufficient to partially solidify and ppte. a wax having fungicidal activity; (d) sepg. and recovering the wax from the oil to obtain clarified neem oil having fungicidal activity; and (e) recovering the clarified neem oil.

Also claimed is the method for controlling fungi by applying a fungicidal amt. of one or more **neem seed** derived fungicides which are free of azadirachtin and which are prepd. as described above.

USE/ADVANTAGE - The fungicides can be used to protect stored fruit, grains or vegetables for various insects or fungal pests. The fungicides can also be used to protect humans or the **skin**, fur or wool of animals, as well as stored objects such as books, papers or cloth. The fungi that can be controlled include mildew, rusts, dollar spots, brown **patch**, black spots and botrytis. The neem oil can be used to control parasitic pests on mammals, such as lice, ticks, scabies as well as eczema and **dermatitis**. Fungicides have insect repellency, low phytotoxicity, low **skin** irritation and good wetting ability.

Dwg.0/0

Dwg.0/0

L22 ANSWER 30 OF 31 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1992-227638 [28] WPIDS

CROSS REFERENCE: 1994-100288 [12]; 1995-030269 [04]; 1995-169559 [22]

DOC. NO. CPI: C1992-102833

TITLE: Pesticidal compsns. comprising neem fractions - which are clarified oil and wax, free of azadirachtin.

DERWENT CLASS: C03

INVENTOR(S): LAREW, H G; LOCKE, J C; WALTER, J F

PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R; (USDA) US SEC OF AGRIC;  
 (THER-N) THERMO TRILOGY CORP; (USDA) US DEPT OF  
 AGRICULTURE; (USGO) US GOVERNMENT; (GRAC) GRACE & CO W R

COUNTRY COUNT: 23

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 494067	A1	19920708	(199228)*	EN	12



R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL PT SE  
 AU 9189794 A 19920709 (199235)  
 CA 2039918 A 19920704 (199238)  
 JP 04308511 A 19921030 (199250) 9  
 ZA 9110193 A 19921125 (199301) 12  
 NZ 241162 A 19930826 (199337)  
 AU 643578 B 19931118 (199402)  
 IL 100439 A 19960723 (199636)  
 EP 494067 B1 19970813 (199737) EN 17  
 R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL PT SE  
 DE 69221510 E 19970918 (199743)  
 ES 2109281 T3 19980116 (199810)  
 CA 2039918 C 20010102 (200104) EN  
 MX 194553 B 19991214 (200110)

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 494067	A1	EP 1992-100002	19920101
AU 9189794	A	AU 1991-89794	19911216
CA 2039918	A	CA 1991-2039918	19910405
JP 04308511	A	JP 1991-356834	19911226
ZA 9110193	A	ZA 1991-10193	19911230
NZ 241162	A	NZ 1991-241162	19911223
AU 643578	B	AU 1991-89794	19911216
IL 100439	A	IL 1991-100439	19911220
EP 494067	B1	EP 1992-100002	19920101
DE 69221510	E	DE 1992-621510	19920101
		EP 1992-100002	19920101
ES 2109281	T3	EP 1992-100002	19920101
CA 2039918	C	CA 1991-2039918	19910405
MX 194553	B	MX 1991-2584	19911216

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 643578	B Previous Publ.	AU 9189794
DE 69221510	E Based on	EP 494067
ES 2109281	T3 Based on	EP 494067

PRIORITY APPLN. INFO: US 1991-637027 19910103  
 AN 1992-227638 [28] WPIDS  
 CR 1994-100288 [12]; 1995-030269 [04]; 1995-169559 [22]  
 AB EP 494067 A UPAB: 20010220

A pesticide formulation comprises an effective amt. of one or more neem fractions, free of azadirachtin. The fractions being prepared by extracting **neem seeds** or expressed neem oil with a non-polar, hydrophobic solvent; removing the solvent from the extract to give neem oil; cooling the neem oil to allow partial solidification; and separating the neem wax fraction formed from the remaining liq. or clarified neem oil fraction.

Also claimed are clarified neem oil which is free from azadirachtin, **water** and neem wax of m.pt. at least 10 deg.C and Neem wax which is free from azadirachtin and **water**, and is a flowable semi-solid at room temp., and which ppts. from neem oil between 5 and 15 deg.C.

USE/ADVANTAGE - Useful as a fungicide and an insecticide with the following applications: Foliar treatment; protection of fruits, grains and

vegetables; protection and preservation of books, papers and cloths; and protection of mammals including humans. It is also useful as an insect repellent and an insect ovicide. The compsn. is able to kill insect larvae as well as adults, and controls foliar and surface fungal pathogens. The neem oil prod. is improved by fractionating to separate waxes and oils. Clarified neem oil has increased insect repellency, fungicidal activity and wetting ability, and decreased phytotoxicity and **skin** irritability. Neem wax has increased insect repellency, fungicidal activity and wetting ability.

Dwg.0/0

ABEQ EP 494067 B UPAB: 19970915

A pesticide formulation comprising an effective amount of one or more neem fractions which are free of azadirachtin and which are prepared by extracting neem oil from **neem seeds** or expressed neem oil with a non-polar, hydrophobic solvent having a high neem oil solubility and no azadirachtin solubility, removing the solvent from the neem oil extract to obtain neem oil, cooling the neem oil to a temperature range of 5 to 15 degree C at which partial solidification occurs to form a neem wax fraction, and separating the neem wax fraction from the remaining liquid or clarified neem oil fraction.

Dwg.0/0

L22 ANSWER 31 OF 31 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1991-207793 [28] WPIDS

DOC. NO. CPI: C1991-090081

TITLE: Pesticidal compsn. for application to animal **skin**, coat or feathers - comprises azadirachtin, di-alkyl-toluamide and geraniol and-or citronella oil.

DERWENT CLASS: B05 C03 D21

INVENTOR(S): GUERRINI, V H

PATENT ASSIGNEE(S): (GUER-I) GUERRINI V H

COUNTRY COUNT: 33

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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WO 9108670	A	19910627	(199128)*		
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RW: AT BE CH DE DK ES FR GB GR IT LU NL OA SE

W: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL

NO RO SD SE SU US

AU 9169141	A	19910718	(199142)		
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PRIORITY APPLN. INFO: AU 1989-7775 19891211; AU 1990-8651  
19900216

AN 1991-207793 [28] WPIDS

AB WO 9108670 A UPAB: 19930928

A pesticidal compsn. comprises azadirachtin, dialkyltoluamide and an oil contg. geraniol and/or citronella.

USE/ADVANTAGE - The compsn. is used to kill or repel pests esp. insects or arachnids, esp. by application to the **skin**, coat or feathers of an animal or bird. The compsn. is also useful for promoting **hair** growth and for treating inflamed or eczematous **skin** on animals (all claimed). The combination of diethyltoluamide (DEET) and oil of citronella produces a synergistic effect which effectively blocks the development of larvae, and which is thought to be related to the synthesis of chitin. Azadirachtin-rich extracts of **neem seeds** inhibit pests such as blowfly larvae, lice and fleas. The synergy between the components of the compsn. allows the use of lower

doses. It has very low toxicity to animals.  
0/0